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A longitudinal qualitative study on Iranian university lecturers' identity reconstruction during the COVID-19 pandemic through text-mining: a dynamic approach

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Abstract

This research addressed the critical gap in understanding the procedure of professional identity reconstruction among university lecturers in Iran during the pandemic. Over the course of two academic semesters, this study utilized a dynamic theoretical framework to investigate the intricacies of how 41 Iranian university English teachers reconstructed their professional identities. Data were collected through a dynamic methodological framework, comprising: semi-structured interviews conducted monthly, focus group interviews held every 3 months, and participants' reflective journal entries collected every 2 weeks. Text mining techniques and content analysis, through KH Coder 3.0, were employed to explore the nuanced aspects of teachers' identity reconstruction, focusing on contextual elements, agency, and pedagogical practices. The use of KH Coder 3.0 software for word co-occurrence and word association analysis revealed that university lecturers reconstructed their professional identities in response to the challenges posed by two main factors: (1) adapting to new educational contexts and (2) overcoming difficulties in teacher–student communication caused by the abrupt shift from traditional in-person education to online schooling. Through their practical experiences, educators emerged as proactive problem solvers, receptive adapters, and confident professionals. These findings carry implications for educational institutions and teacher educators, emphasizing the importance of prioritizing pedagogical systems that encourage teachers to excel in hybrid teaching contexts, fostering proficiency in online communication and virtual teaching methods.

Keywords: Higher education, Language teachers' identity, Teacher agency, Text mining

Introduction

Teacher identity is a complex construct that encompasses teachers' beliefs, values, experiences, and professional roles, which could involve evolving aspects of their professional lives (Foreman-Brown et al., 2023). Given the significance of this construct, the pandemic has emphasized the importance of educators redefining their roles and identities as teachers especially in the context of remote and hybrid education (Zhang

& Hwang, 2023). In this regard, research conducted during the COVID-19 lockdown demonstrates a clear shift in the scholarly perspective from a product-oriented to a process-oriented view of teacher identity (Padmini Shankar, 2022). The product-oriented perspective perceives teachers simply as conveyors of pre-designed knowledge, while the process-oriented standpoint sees teachers as co-constructors of knowledge in the instructional context, emphasizing various aspects of teachers' professional identity (Padmini Shankar, 2022). From this perspective, language instructors are viewed as more than impartial knowledge conveyors. Instead, their self-perception within an educational institution, their interactions with students, and their choice of instructional methods are considered crucial elements that shape the effectiveness of the pedagogical system where in they are involved (Bao & Feng, 2022; Padmini Shankar, 2022; Shobeiry, 2013; Trent, 2015; Varghese et al., 2016). This redefined role of the teacher necessitates an approach that prioritizes educational systems fostering a language learning environment where learners engage in language acquisition as an ongoing and interactive process (Sanders-Smith et al., 2022). The outbreak of COVID-19 introduced an unforeseen dimension to this evolving discourse which imposed the need for teacher identity reconstruction (Zhang & Hwang, 2023).

The closure of physical educational institutions propelled teachers into uncharted territory, necessitating an accelerated shift towards online teaching. In this sense, pandemic-related studies, such as Zhang and Hwang's (2023) research, have highlighted significant changes in language teachers' identities within virtual teaching settings, which, in turn, confirmed the growing importance of the process-oriented perspective. This transformative phase has underscored the adaptability of educators, their capacity to reconfigure their pedagogical strategies, and ability to redefine their role in shaping a conducive virtual learning environment (Padmini Shankar, 2022). This reconceptualization has spurred a concomitant surge of research into the realm of language teacher identity, emphasizing the centrality of instructors' self-perception, emotions, and pedagogical roles (e.g., Huang et al., 2023; Namaziandost et al., 2023; Tantawy, 2020; Vadivel et al., 2021; Zhang & Hwang, 2023).

In the context of higher education in Iran, professors and lecturers hold culturally significant positions with substantial agency in traditional in-person university classrooms (Shobeiry, 2013; Safari & Rashida, 2015). However, the advent of lockdowns posed a considerable challenge for educators at the tertiary level in adjusting their identities and agency to suit the newly imposed virtual teaching context (Ghanbari & Nowroozi, 2022). Teacher agency refers to teachers' capability to take actions that have an impact on their social and professional interactions (Layder, 2006). This concept is intricately connected with the process of teacher identity reconstruction in a specific setting (Tantawy, 2020; Huang et al., 2023). As educators engage in the procedure of redefining their identity in a particular context, they begin to exhibit behaviors that align with their envisioned role and identity in that specific environment (Trent, 2015). It should be noted that the existing literature is limited regarding language teachers' identity reconstruction during the COVID-19 lockdown in Iran. The body of research in this domain is confined to merely five valid studies, as of the time of drafting this manuscript, among which two primarily investigated the coping strategies employed by Iranian university lecturers to reshape their identity in virtual classrooms (Azizi, 2022; Ghanbari & Nowroozi, 2022),

and the remaining studies focused on facets of identity reconstruction observed in non-university English language teachers (Fallah et al., 2021; Nazari & Seyri, 2023; Hassani, 2021). Therefore, a noticeable knowledge gap exists concerning Iranian language educators' identity reconstruction process with regard to contextual elements, agency, and pedagogical practices at the tertiary level. Moreover, it's pertinent to acknowledge that the process of reconstructing identity in language teachers is inherently dynamic (Trent, 2015); however, none of the prior studies in this field adopted a dynamic theoretical approach in their investigation of language teachers' identity reconstruction process. As a result, to bridge these evident gaps of knowledge, this study adopts a dynamic approach extracted from Trent's (2015) model of teacher identity reconstruction, described in the theoretical section of this paper, to investigate Iranian university language teachers' identity reconstruction process concerning their agency, pedagogical practices, and contextual factors during the pandemic era.

The significance of this research lies in what Ritter et al. (2016) stated with regard to teacher identity reconstruction process. As posited by Ritter et al. (2016), educators who endeavor to align their professional identities with the demands of a new educational context, often manifest behaviors congruent with their envisioned roles. Consequently, gaining a thorough understanding of these processes holds significant implications for improving the effectiveness of instruction in virtual learning environments. Acknowledging Ritter et al.'s (2016) statements, this research meticulously explored the university teachers' identity reconstruction process with a focus on contextual elements, teacher agency, and teachers' professional practice. A comprehensive grasp of these processes carries substantial implications when it comes to enhancing the efficiency of teaching within virtual learning environment. Furthermore, this study has the potential to enhance the quality of teacher education programs in a corresponding manner.

Review of the related literature

Language teachers' identity reconstruction

Identity reconstruction, in general, refers to the dynamic process through which individuals develop and negotiate their sense of self within specific sociocultural contexts (Norton, 2019). In the context of language teaching, identity reconstruction encompasses the ways in which teachers perceive themselves as language professionals, negotiate their roles, and interact with students, colleagues, and educational institutions (Johnson, 2020; Shobeiry, 2022; Shobeiry et al., 2023; Zhang & Hwang, 2023). The way teachers approach pedagogy, the strategies they employ in their teaching practice, and the rapport they establish with their students can all be manifestations of their professional identity (Farrell, 2012; Trent, 2015). This professional identity is reconstructed through the interplay of internal and external factors, such as cultural background, personal experiences, and educational history (Sanders-Smith et al., 2022; Trent, 2015). This interplay makes the process of language teachers' identity reconstruction a dynamic practice (Trent, 2015; Zhang & Hwang, 2021). Additionally, the institutional, contextual, and pedagogical approaches prevalent in various instructional contexts can exert additional influence on the process of teacher identity reconstruction in a specific setting (Johnson, 2020).

According to Varghese et al. (2016), language teachers often adopt roles that align with their perceptions of effective teaching. These roles emerge from a combination of personal beliefs, cultural norms, and professional training (Varghese et al. 2016). However, this process is not without challenges. One example of these challenges, as noted by Johnson (2020), is the conflicting expectations from various stakeholders (such as students, parents, and administrators) that can create tensions and discrepancies in teachers' self-identification. This issue commonly occurs when a teacher's identity does not align with the adoption of certain teaching methodologies imposed in an instructional setting (Johnson, 2020). These challenges and the factors associated with them are clearly outlined in Trent's (2015) model of language teacher identity reconstruction, which is described in detail in the subsequent section. This model makes it the most suitable theoretical foundation to fulfill the objective of this study. The choice to employ this theoretical framework in this research is justified based on three key factors outlined in the reviewed literature. Firstly, identity reconstruction in language teaching is a complex process involving how teachers perceive themselves, negotiate their roles, and interact with various stakeholders (Johnson, 2020; Shobeiry et al., 2023; Varghese et al. 2016; Zhang & Hwang, 2023). This aligns with Trent's (2015) dynamic approach which acknowledges the interplay of internal and external factors, such as cultural background and institutional influences, in shaping teacher identity. Secondly, the literature highlights the dynamic nature of teacher identity reconstruction, emphasizing that it is not a static concept but rather a process influenced by various contextual and pedagogical factors (Bao & Feng, 2022; Padmini Shankar, 2022; Sanders-Smith et al., 2022; Zhang & Hwang, 2023). In this regard, Trent's (2015) model specifically addresses this dynamism, making it well-suited for studying how language teachers adapt and evolve their professional identities in response to changing circumstances (Zhang & Hwang, 2023). Thirdly, the challenges faced by language teachers in aligning their teaching methodologies with their professional identities highlight the need for a theoretical framework that can account for tensions and discrepancies in their self-identification process (Johnson, 2020). Considering these three key points, as Zhang and Hwang (2023) argue, Trent's (2015) model with its focus on the complexities of identity reconstruction provides a solid foundation for exploring these challenges in depth. The model is described in detail in the following section.

Theoretical framework

This study is built on Trent's (2015) multidimensional model of teacher identity reconstruction in post-structuralism where language teachers' identity is viewed to be reconstructed dynamically through the dimensions of practice, discourse, and agency due to the interplay of internal, interpersonal, and contextual factors (see Fig. 1).

Notions of "identity-in-practice", "teacher identity", and "professional identity", which are used interchangeably in the literature of teacher identity, embody an action-driven approach for comprehending the concept of identity in instructional settings (Varghese et al. 2016). This approach accentuates the necessity of studying identity as a concept that manifests through tangible practices across the modes of: engagement, imagination, and alignment (Trent, 2015). Engagement serves as a catalyst for a community's recognition of an individual's competence. Imagination plays a significant role in shaping

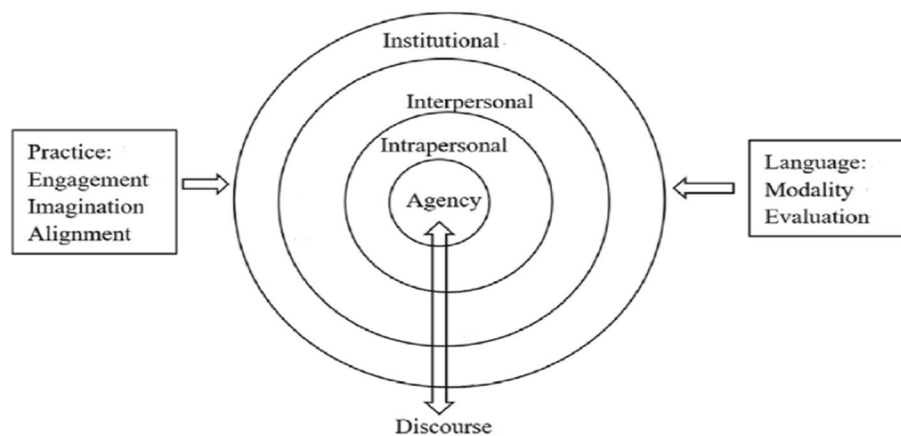


Fig. 1 Multidimensional framework of teacher identity reconstruction (Trent, 2015) published open access

identity, encompassing the conceptualization of a reality beyond the present temporal and spatial confines. Alignment involves expanding one's activities into broader contexts (Trent, 2015).

Considering the above-mentioned definitions of terms, to achieve a nuanced understanding of language teacher identity, Trent (2015) emphasized the significance of focusing on "identity-in-discourse." This concept highlights how discourse plays a dynamic and pivotal role in shaping individuals' professional positions. In this regard, as noted by Bucholtz and Hall (2005), one of the clearest ways teachers express their identity is by explicitly naming the categories through which they self-identify their professional entity, such as "new teachers," "productive teachers," or "traditional teachers." These self-identifications, as argued by Fairclough (2003), can be assessed based on modality and evaluation. Modality, as described by Trent (2015), involves analyzing an individual's language to understand their commitments or obligations in the world. Evaluation, also defined by Trent (2015), pertains to individuals' judgments about the characteristics that are considered acceptable or unacceptable in a given context. Building on this approach, Trent (2015) elaborates that the process of teachers' self-identification encompasses an evolving and dynamic procedure that prompts inquiries into teacher agency. Teacher agency, as described earlier, refers to individuals' capacity to take actions that influence their professional interactions (Layder, 2006). These actions, along with individuals' perceptions of the institutional, interpersonal, intrapersonal, and contextual factors relevant to their professional identity, profoundly impact the ongoing and dynamic process of teacher identity reconstruction (Trent, 2015).

Empirical studies on language teachers' identity during the COVID-19 pandemic

The rapid onset of the COVID-19 pandemic prompted a hasty transition from conventional face-to-face educational settings to digital learning platforms. Within the domain of scholarly discourse pertaining to language pedagogy, this abrupt transformation gave rise to a corpus of literature characterized by a variety of methodologies and approaches concerning exploring the procedure of language teachers' identity reconstruction. One of these approaches concerns studying the reconstruction of language teachers' identity through analyzing the educators' modifications of agency. For example, in the study

conducted by Ashton (2022), the extent of agency exhibited by four language educators in the context of online instruction during the COVID-19 pandemic was explored. The findings illuminated that the instructors manifest their agency in accordance with their professional identities in the new situation. Applying a similar methodological approach, Nazari and Seyri (2023) studied identity reconstruction of six language teachers in Iran during the pandemic's shift to online education. They found the key aspects influencing the language teachers' identity reconstruction including: varied teaching approaches, reduced agency, increased responsibility, emotional labor, adopting technology-focused methods, identity inconsistencies, and increased reflection. In a parallel vein of research, Fallah et al. (2021) pursued a similar approach and studied identity reconstruction procedure of 35 English language teachers in private language institutions in Iran during the Covid-19 pandemic. They explored how virtual instructional settings affected teachers' performance, teaching skills, perceptions of communities of practice, and subsequently, their professional identities. Their findings revealed three key factors in identity reconstruction and agency reshaping of teachers including: (1) teachers' roles and self-efficacy, (2) teachers' value and interconnectedness, and (3) teachers' future plans.

An alternative approach in the literature concerning the language teachers' identity reconstruction in the context of the COVID-19 pandemic involves the exploration of the challenges that English teachers confronted with regard to their identity, their pedagogical convictions, and the coping strategies they employed to adapt to online schooling. An illustration of this approach is exemplified in the work of El-Soussi (2022) who explored the process of identity reconstruction of four university language teachers in United Arab Emirates. The findings showed that the teachers experienced a shift in their teaching beliefs when they switched to the online instructional context. As a result, the teachers were found to adjust their teaching methods to better suit the requirements of the virtual learning environment. Another instance of this approach is evident in the research conducted by Yan and Wang (2022) where the transition of three secondary school English teachers from traditional to online teaching was investigated in China. Their study delineated coping strategies that the teachers employed to facilitate effective online schooling. From a similar methodological perspective, Ghanbari and Nowroozi (2022) conducted a case study in Iran involving two English instructors at Persian Gulf University. The findings showed that teachers experienced challenges transitioning from traditional to online teaching. Through interviews, their study revealed that, initially, the university lecturers faced pedagogical, technological, institutional, and emotional challenges. However, as the course progressed, they invented effective solutions to overcome the challenges of the virtual setting.

Applying a congruous methodological approach, Azizi (2022) sought to elucidate the merits and demerits inherent to the online teaching paradigm, as perceived by a cohort of 16 English language teachers within the Iranian university system. The study delineated five advantages, encompassing flexibility, self-directedness, cost-effectiveness, the augmentation of professional competence, and heightened motivation. In tandem, four disadvantages were identified, namely increased workload, technical and institutional obstacles, the absence of in-person interactions, and occurrences of student dishonesty. These findings, as argued by Azizi (2022), conveyed that the advantages perceived by the teachers amplified their motivation and positively impacted their self-perception within

the instructional system. On the other hand, the disadvantages perceived by the teachers presented challenges that may affect how teachers perceive themselves and define their professional identity within the online instructional system. Overcoming these challenges, as Azizi (2020) argued, requires for the teachers to adjust their self-identification and instructional practices to align with the demands of the virtual environment. In a similar research trajectory, Hassani (2021) investigated the impact of COVID-19 lockdown on coping mechanisms of language teacher trainees. Using interviews and journals from 30 participants, his study revealed a shift from conflict to seeing the pandemic as an opportunity for professional identity growth in the language teacher trainees. Up to here, all studies conducted on language teachers' identity reconstruction ignored the dynamic nature of teacher identity reconstruction process. This gap was bridged by the study of Zhang and Hwang (2023) in which they adopted Trent's (2015) dynamic theoretical framework for teacher identity reconstruction procedure. Zhang and Hwang (2023) studied the identity reconstruction process of 20 Chinese EFL teachers during the COVID-19 lockdown in the context of China. They showed that two types of factors influenced identity reconstruction process of teachers. These factor included situational context-related factors and interactional context-related factors which both determined how teachers enact their agency through their professional practice.

From a critical perspective, the reviewed literature provided a comprehensive overview of the studies conducted on language teachers' identity reconstruction procedures during the COVID-19 pandemic. It categorized research into two main approaches, highlighting the modification of agency and challenges faced by the teachers during the pandemic lockdown. Importantly, the review acknowledged the imperative to attend to the dynamic nature of teacher identity reconstruction, as addressed in the study by Zhang and Hwang (2023), specifically within the context of Iran. This recognition was prompted by the notably limited existing literature in this regard. To elaborate, the review underscored that the current research on the identity reconstruction of Iranian English language teachers during the pandemic was confined to five reliable studies. Two of these studies focused on the coping strategies employed by university lecturers to adapt their identities in virtual classrooms (Azizi, 2022; Ghanbari & Nowroozi, 2022), while the remaining three explored identity reconstruction among non-university language educators (Fallah et al., 2021; Hassni, 2021; Nazari & Seyri, 2023). Consequently, the reviewed literature underscored a clear need to comprehend the identity reconstruction processes of Iranian language educators, particularly at the tertiary level, taking into account contextual factors, teacher agency, and pedagogical practices.

Furthermore, the reviewed literature underlined the importance to note that the dynamic nature of teacher identity reconstruction had not been addressed in any of the prior studies involving Iranian educators. To bridge these gaps, the present study employed a dynamic approach to investigate the identity reconstruction procedures of Iranian university language teachers concerning contextual elements, teacher agency, and the pedagogical practices they employed during the COVID-19 pandemic. Consequently, this study aimed at answering the following research question:

- How did Iranian university English teachers reconstruct their identity during COVID-19 pandemic, considering their agency, pedagogical practices, and contextual factors imposed by the lockdown?

Method

Research design

The research design employed in this study can be characterized as a longitudinal qualitative research framework, as outlined by Creswell (2014), aimed at exploring the identity reconstruction process of Iranian university language teachers within the context of virtual instructional system during the COVID-19 pandemic. The choice of this research design was guided by its capacity to capture the dynamic nature of teachers’ identity reconstruction (Trent, 2015) over a span of two academic semesters, ranging from September 2020 to June 2021, coinciding with the pandemic lockdown. This methodology was structured around three fundamental components: monthly semi-structured interviews, focus group interviews conducted every 3 months, and the systematic collection of participants’ reflective journals every 2 weeks, as graphically depicted in Fig. 3. In the subsequent phase of the research design, it was determined that text mining and content analysis would be employed as the chosen methodologies for analyzing the extensive qualitative data amassed during the initial phases of the investigation. This selection was underpinned by the reasoning that these methods had been found to be notably effective in the research design of the comparable study conducted by Zhang and Hwang (2023), as mentioned earlier, with an extensive qualitative textual dataset on Chinese EFL teachers’ identity reconstruction procedure. Furthermore, as argued by Ferreira-Mello et al. (2019), text mining and content analysis are considered highly efficient for analyzing extensive and intricate qualitative datasets collected on psychological aspects in education (Fig. 2).

Furthermore it should be added that due to employing the multidimensional framework of Trent’s (2015) model for teacher identity reconstruction procedure, the context of this study was divided into three distinct layers of: micro, meso, and macro levels, mirroring the methodological framework put forth by Zhang and Hwan (2023). At these contextual levels, participants discussed the impact of COVID-19 lockdown on: (1) their perception of professional self and capabilities (micro), (2) interactions with students,

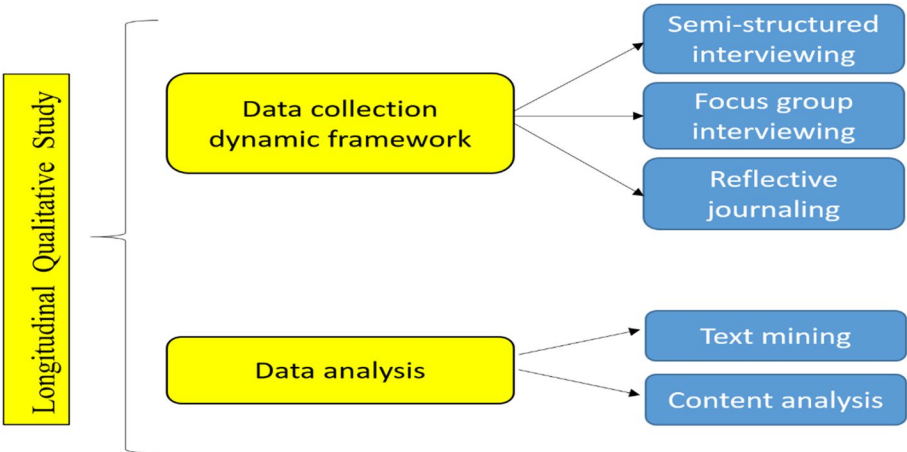


Fig. 2 Research design

colleagues, and (3) institutional guidelines (meso), and their opinions on optimal teaching methods in virtual teaching contexts (macro).

Recruitment and ethical considerations

Since the purpose of this study was to focus on university English teachers in Iran, a purposeful sampling approach was employed in this research. In the first step, individuals with doctoral degrees in applied linguistics who held positions as university lecturers were identified through their email addresses available on their affiliated institutions' websites, as well as their profiles on research networking platforms. In the next step, an invitation letter was sent to them. The letter included information about the research, such as the objective of the study, the data collection procedures, and the participants' right to withdraw from the study at any time prior to the end of the data collection process. Finally, they were asked to sign a consent letter and email it to the author. Only participants with a signed consent letter were included in this research under the condition of anonymity and confidentiality of their data.

Participants

A total of 41 university lecturers (24 men and 17 women) from 14 different universities across Iran, which included 8 state universities, 3 branches of Islamic Azad University, 1 branch of Applied Science and Technology University, and 1 branch of Khatam University participated in this study and remained committed throughout the data collection process. The age range of the participants spanned from 27 to 56 years (Mean, $\mu = 43.53$; Standard Deviation σ : 7.19) all of whom held doctoral degrees in the major of Applied Linguistics. To ensure confidentiality, pseudonyms were assigned to the participants throughout the data collection process. The courses they taught included: academic writing, general English for university students, English for engineering students, English for students of agricultural engineering, English for students of social sciences, English for students of psychology, and English for students of natural sciences. The study didn't focus on whether the participants taught English for specific purposes or general English. As a result, all participants who taught English at the tertiary level were grouped together. Interestingly, prior to the pandemic lockdown, none of the participants had former exposure to online educational platforms. This point made them homogenous in terms of their background experience in virtual settings.

Instrument

The semi-structured interview questions employed in this study were adopted from the research conducted by Zhang and Hwang (2023) on Chinese EFL teachers' identity reconstruction procedure, as is shown in Table 1. In their study, Zhang and Hwang (2023) utilized text mining techniques through KH Coder 3.0 for their data analysis and, as they argued, their interview questions provided them with a rich dataset for conducting text mining analysis. Employing a similar research design, this study borrowed their interview questions.

Table 1 The semi-structured interviews questions (Zhang & Hwang, 2023)

Context	Questions
Macro level "Self-perception of their own teaching practice in the new context"	Q1 How would you describe yourself as an English teacher before and after the pandemic? Q2 Describe the most significant influence of COVID-19 on your teaching Q3 What were the most difficult aspects of teaching during the pandemic?
Meso level "Indicating the role of experience + feedback in identity reconstruction or professional success in the new context"	Q4 Describe a really good experience you had in online classes during the pandemic and elaborate why it was a good teaching experience Q5 Describe a really bad experience you had in online classes during the pandemic and elaborate why it was a bad teaching experience Q6 When teaching during the pandemic, did you receive any feedback on your teaching from students, colleagues, or others?
Micro level "Indicating the role of identity related features on their success in the new context"	Q7 When teaching online, how do you think you present your unique style (your personality, management style)? What are the biggest differences between online and face-to-face teaching? Q8 What qualities do you believe contributed most to your success as an English teacher after the pandemic? Q9 Do you enjoy teaching online now? Why or why not? Q10 What two pieces of advice you would give to a new English teacher?

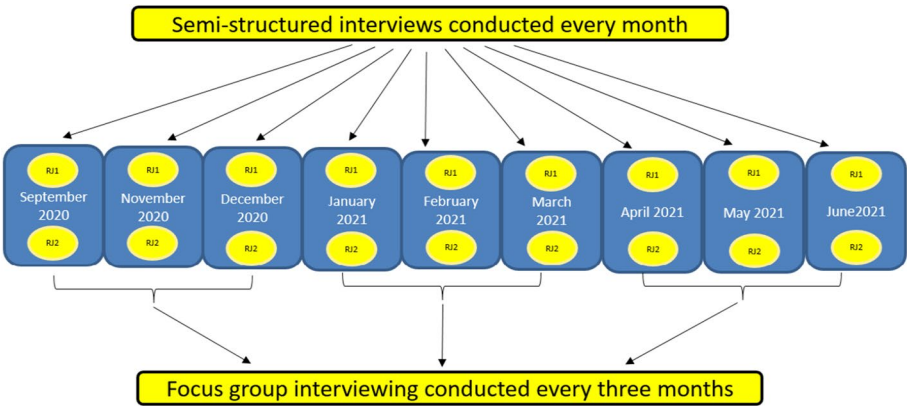


Fig. 3 Timeline of the data collection methodological framework

Data collection procedure

Acknowledging the dynamic nature of teacher identity reconstruction procedure (Trent, 2015), to fulfill the objective of this study, a dynamic data collection framework was used. This framework included: (a) a series of online semi-structured interviews conducted monthly, (b) three sessions of focus group interviews conducted every 3 months, and (c) participants’ reflective journaling collected every 2 weeks over two consecutive academic semesters. Figure 3 illustrates the data collection timeline of this study in which RJ is an abbreviation for the term "reflective

journaling". In Fig. 3, RJ1 refers to the reflective journaling of the first 2 weeks of each month and RJ2 refers to the reflective journaling associated with the second 2 weeks of each month.

Semi-structured interviews

Each participant was interviewed monthly online through WhatsApp or Google Meet from September 2020 to June 2021. All interviews were conducted in English and had an average duration of 45–55 min. During each interview session, the same set of ten questions mentioned in Table 1 was consistently asked. Since each academic semester in Iran lasts for 3–4 months, the interview dataset included 6 interviews with each participants. Given the demanding nature of this stage which required a great amount of time to interview 41 individuals on a monthly basis, three research assistants were hired to complete this stage. All interviews were audio recorded, transcribed, and saved in KH Coder 3.0 software for future analysis.

KH Coder, as Higuchi (2017) highlighted, is an open-source software designed for computer-assisted qualitative data analysis, with a particular focus on qualitative content analysis and text mining. This software harnesses the power of Natural Language Processing (NLP) to assist researchers in analyzing textual data. It offers support for text-mining and extracting etymological information from texts in multiple languages. Furthermore, one of the noteworthy features of KH Coder is its capability to facilitate factual examination through co-event system analysis and nucleus structure identification (Higuchi, 2017). The software also offers multidimensional scaling and comparative algorithms which facilitates extracting intended data through text-mining (Higuchi, 2017).

Focus group interviews

Three focus group interview meetings were arranged every 3 months from September 2020 to June 2021. The time line of this stage comprised of: one focus group interview in December 2020, another one conducted in March 2021, and the last one arranged in June 2021. To facilitate the arrangement of these meeting sessions, the Telegram App was used, where all participants were added to one group. Once a consensus on the time of a meeting session was reached, the author shared an invitation link to the virtual meeting session on Google Meet in the Telegram group. The participants could simply click on the link and join the synchronous meeting. In the course of these synchronous meetings, the attendance figures were as follows: 26 participants were present in the first session, 31 in the second, and 27 in the last. It is important to highlight that, out of the total of 41 participants, 14 teachers attended every single meeting, 19 individuals missed only one session, and 8 participants were absent for two sessions. Additionally, it is worth mentioning that not a single participant dropped out of the data collection procedure during the study or withdrew their data after the data collection timeline had concluded.

All of the focus group interviews were conducted in English, lasting an average of 60 min per session. In each of these three focus group discussions, four core questions were used as the discussion prompts. These questions essentially served as a condensed

version of the inquiries used in the semi-structured interviews. This approach was adopted based on the insights of Wojtecka et al. (2023), who argued that individuals may articulate their perceptions differently when participating in focus group interviews compared to narrative or semi-structured interviews. This divergence can be attributed to the influence of their self-projection within the group dynamic (Sim & Waterfield, 2019). Recognizing this potential for diversity in the data arising from focus group interviews compared to the semi-structured dataset, the intention was to explore various facets of the participants' self-identification on the intended topic of discussion and compare it with the semi-structured interviews. This, in turn, might have led to the emergence of new research inquiries concerning the overarching issue (Wojtecka et al., 2023). However, due to the congruency of the data in this study, no more research questions were developed.

As a result, the integration of semi-structured interviews alongside focus group discussions with the same participants and similar questions, in this study, yielded a rich dataset encompassing multiple dimensions of the participants' attitudes, as highlighted by Wojtecka et al. (2023). This combination also enhanced the dependability and credibility of the collected data by providing the opportunity of clarification and corroboration of the data on the same concept using different methods, in line with Sim and Waterfield's insights (2019).

The questions used in the focus group session are as follows:

- How did your agency change due to the abrupt challenges of online schooling?
- How has COVID-19 influenced your teaching practice? Elaborate on your good and bad teaching experiences.
- What are the biggest differences between online and face-to-face teaching with regard to presenting your personality, professional agency, classroom management?
- What aspects of your identity and personality do you think helped you the most to cope with the new situation?

All of the interview sessions were audio recorded, transcribed, and saved in KH Coder 3.0 for text mining and content analysis. The overall number of the transcribed pages of the semi-structured interviews and the focus group sessions was counted to 9164 pages until the end of the data collection procedure.

Participants' reflective journaling

In the context of teacher identity reconstruction, in line with Trent's (2015) theoretical framework, the importance of a dynamic data collection procedure was emphasized by this study. This procedure was partly performed through the collection of reflective journal entries from participants. Reflective journaling, as described by Alt and Raichel (2020), involves a comprehensive analysis of an experience, the capture of its personal resonance, and the planning and development of strategies to apply the newfound knowledge gained from that experience. The practice of reflective journaling significantly contributes to the cultivation of self-awareness, as moments of cognitive dissonance or conflicting emotions are inevitably encountered by reflective writers (Alt & Raichel, 2020). These encounters, in turn, prompt self-evaluation, leading to an

increased awareness of their cognitive processes and emotional responses (Alt & Rachel, 2020).

At this stage, the participants were expected to journal about their teaching experience, related emotions, and self-perception of their teaching practice and agency in maximum 500 words every 2 weeks and email it to the author. Setting a word limit restriction for participants' journal entries served two main purposes: Firstly, as Dodgson (2019) stated, it enhanced data consistency and comparability. By requesting participants to express their thoughts and experiences within a specified word limit, one can ensure that the collected data is concise and focused (Dodgson, 2019). Secondly, as Braun and Clarke (2014) argued, word limits encourage participants to prioritize and reflect upon their most salient experiences or thoughts. This would lead to a faster data saturation which makes the qualitative analysis more convenient (Braun & Clarke, 2014).

At this stage, the following prompts were supplied to the participants to guide their journaling process:

- Elaborate on the challenges you faced over the last 2 weeks concerning agency and teaching practice.
- Considering your classroom management, classroom activities, and positing your professional identity in online context over the last 2 weeks, what did you learn from your teaching experience?

The participants' journals were reviewed and saved in KH Coder 3.0 for data analysis.

Data analysis

Given the intricacies of conducting data analysis using KH Coder 3.0, a comprehensive step-by-step breakdown of the data analysis procedure was not feasible in this section without visualizing the datasets within KH Coder 3.0. As a result, a general overview of the data analysis process is provided in this part. However, in the subsequent section, a detailed account of each data analysis step by presenting the actual data and graphical plots generated using the KH Coder 3.0 software is provided.

The data analysis of this study consisted of two phases. Initially, the focus was on comprehending the participants' perception on their identity reconstruction procedure, as well as the challenges they encountered due to the abrupt transition from traditional to online educational contexts. To achieve this goal, a word co-occurrence analysis was conducted using KH Coder 3.0 software. To avoid misinterpretations related to negative terms, specific terms such as "hadn't", "hasn't", "haven't", "don't", "didn't", "doesn't", and "not" were isolated during this stage. Subsequently, to undertake a more nuanced evaluation of discrepancies among university lecturers' identity reconstruction procedure, a word association analysis was employed to extract and categorize different themes. This procedure involved implementing coding techniques to analyze the participants' reflections on their self-perception, self-awareness, self-evaluation, and employed strategies for managing challenges across the three distinct contextual layers of: micro, meso, and macro levels. These codes, presented in Table 2, were created based on the institutional, interpersonal, intrapersonal, and agency-related factors in teachers' identity reconstruction procedure (Trent, 2015).

Table 2 Coding scheme for language teachers' identity reconstruction factors in Trent's (2015) theoretical framework

Interpersonal	Intrapersonal	Agency	Institutional	Professional practice
<i>Codes</i>	<i>Codes</i>	<i>Codes</i>	<i>Codes</i>	<i>Codes</i>
Brainstorming with students	Motivation	Agency in classroom management	Too much expectations without providing virtual teaching training course	Reshaping old instructional methods
Interactive discussions	Anxiety	Agency in classroom leadership	Time-consuming administrative work	Employing new teaching methods
Team work	Flexibility	Task assignment throughout instruction	Frequent problem with the virtual platform	Assigning online group discussions
Group discussion	Patience	Agency in leading virtual meetings		Assigning online student-centered presentations
Interactive assessment	Self-awareness	Agency in conducting virtual assessment		Educating oneself and learning new teaching techniques
Showing empathy with students	Self-confidence	Assertiveness		Asking for feedback
Interactive teaching	Self-analysis			Critical thinking and problem solving activities

Table 3 Coding scheme for contextual-related features of teachers' identity reconstruction

Micro	Meso	Macro
<i>Codes</i>	<i>Codes</i>	<i>Codes</i>
Teachers' ideas on their own online communication skills	Student feedback on teaching methods	Teachers' idea on their personality traits influencing their teaching practice
Teachers' ideas on their own digital literacy	Students feedback on classroom engagement	Teachers' idea on their personality changes after the pandemic
Teachers' perception of their own adaptability skills	Student feedback on assessment methods	Comparing their instructional achievements before and after the pandemic
Teachers' attitude toward their own teaching capabilities	Colleagues feedback on their coping strategies	Attributing their success to their personality traits
Teachers' ideas on their own personal problems in online teaching	Teachers' uplifting experiences	Attributing their failure to their personality traits

Additionally, Table 3 introduces a separate set of codes addressing three layers of contextual factors. These codes were created to conduct a word association analysis, aiming to reveal connections among words relevant to contextual influences on language teacher identity reconstruction over time. These codes align with Zhang and Hwan's (2023) contextual classification, where:

- (a) Participants' beliefs, experiences, attitudes related to their self-perception in the new teaching context were coded as macro level contextual features.
- (b) Participants' attitudes towards the role of experience and feedback in identity reconstruction were coded as meso level contextual factors.

- (c) Participants' views on the influence of identity-related features on their overall success in the new context were coded as micro level contextual factors.

In the second phase of data analysis, content analysis was conducted with the aim of extracting relevant themes and patterns from the data previously coded. This content analysis was carried out by employing the selected codes in the word association analysis of the KH Coder 3.0 software as was recommended by Higuchi (2017). According to Higuchi (2017), this process should be used to make the related codes emerge in the plots generated by KH Coder 3.0, which, in turn, these codes will display the identified themes in the data of interest. Building on these explanations, an additional coding process, based on Trent's (2015) model of identity reconstruction, was applied in this phase of data analysis to extract prevailing themes and patterns related to teachers' perceptions of intrapersonal, interpersonal, institutional, and contextual factors.

Findings

The dual-pathway of language teachers' identity reconstruction process

To comprehensively understand word connections across various datasets while using KH Coder 3.0, as Higuchi (2017) recommends, the whole data should be put together into an Excel file to make it easier for the software to plot the main networks of words. As such, the three datasets of this study including semi-structured interviews, focus group sessions, and teachers' reflective journal were all consolidated into a single Excel file encompassing three Tables and saved in KH Coder 3.0 for further analysis. At this stage a co-occurrence network analysis was performed on the whole data. The plot

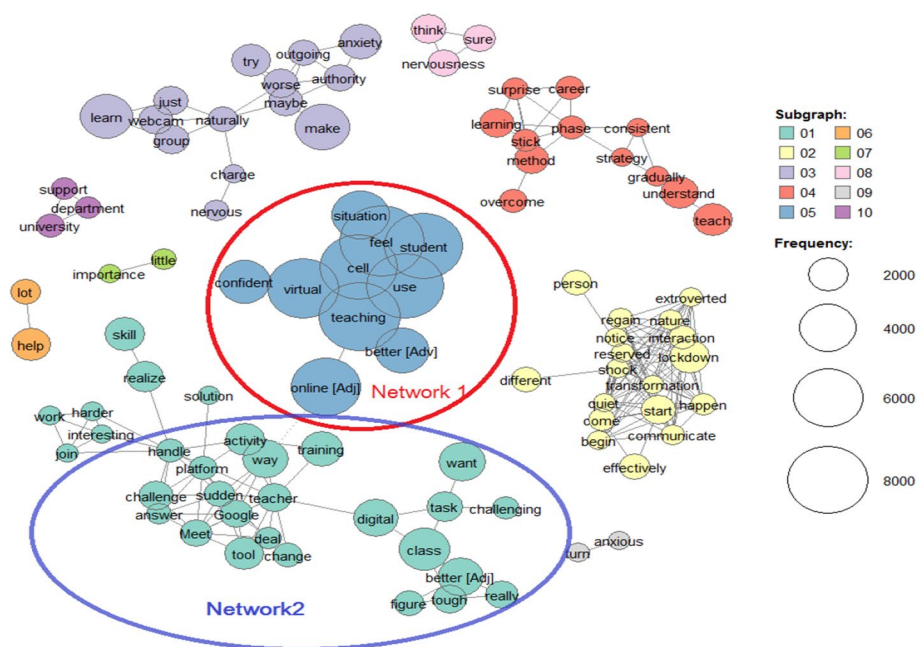


Fig. 4 Co-occurrence network of frequently used words in the datasets

provided by the software (see Fig. 4) illustrated four distinct networks of word connections among which two main networks were found to have the highest frequencies:

1. Network 1: this network pertained to words associated with the teachers' attitudes toward communication challenges during the transition from traditional to virtual teaching settings.
2. Network 2: this network showcased word connections related to the teachers' coping strategies and instructional adaptations in the online teaching context.

To interpret these two networks, this study relied on Higuchi's (2017) elucidation on the interpretation of word co-occurrence analysis results in KH Coder 3.0. According to Higuchi (2017), a co-occurrence analysis of the entire dataset in KH Coder 3.0 highlights the utmost importance of considering the most frequently occurring networks as primary pathways to address your research inquiries. Digging into the specifics, Network 1 emerges as noteworthy, boasting the highest frequency of words intertwined with the concept of "communication in the classroom." These words could be exemplified as: "cell phone, online connection, virtual context, students, online messaging, and interaction". Moving to the next network, network 2 is distinctive for its noticeable use of words such as "task, Figure, teaching strategies, teaching methods, classroom activity, google search, and tool". These terms were closely linked to teachers' coping strategies within the virtual setting.

This analysis led to the inference that university lecturers underwent a professional identity reconstruction process in response to the shift from traditional to online instructional contexts through two main pathways:

1. Confronting the challenges stemming from teacher-student communication difficulties in virtual settings
2. Skillfully adapting to the virtual educational context in terms of teaching strategies and classroom activities

Main factors in the teachers' identity reconstruction process

Analyzing the data at this stage involved using coding words related to teacher identity reconstruction process which were adopted from the main features of Trent's (2015) model of teacher identity reconstruction. These codes, shown in Table 2, were used to extract the main factors contributing to the teacher identity reconstruction procedure in the datasets. The codes were employed in a word association analysis utilizing KH Coder 3.0 to extract the main factors, as Higuchi (2017) explains. This analysis revealed a strong correlation between terms associated with teachers' professional identity and their viewpoints on intrapersonal, interpersonal, institutional, and contextual factors, as illustrated in Fig. 5. These words could be exemplified as: "adaptation, cope, succeed, overcome, motivation, motivated, uplifting, anxiety, outgoing, introverted, extroverted, reserved, agency, authority, improve, anxious, feeling sure, nervousness, feeling ok, feeling fine, student feedback, colleagues feedback, feeling proud, classroom interactions, demotivated, shy".

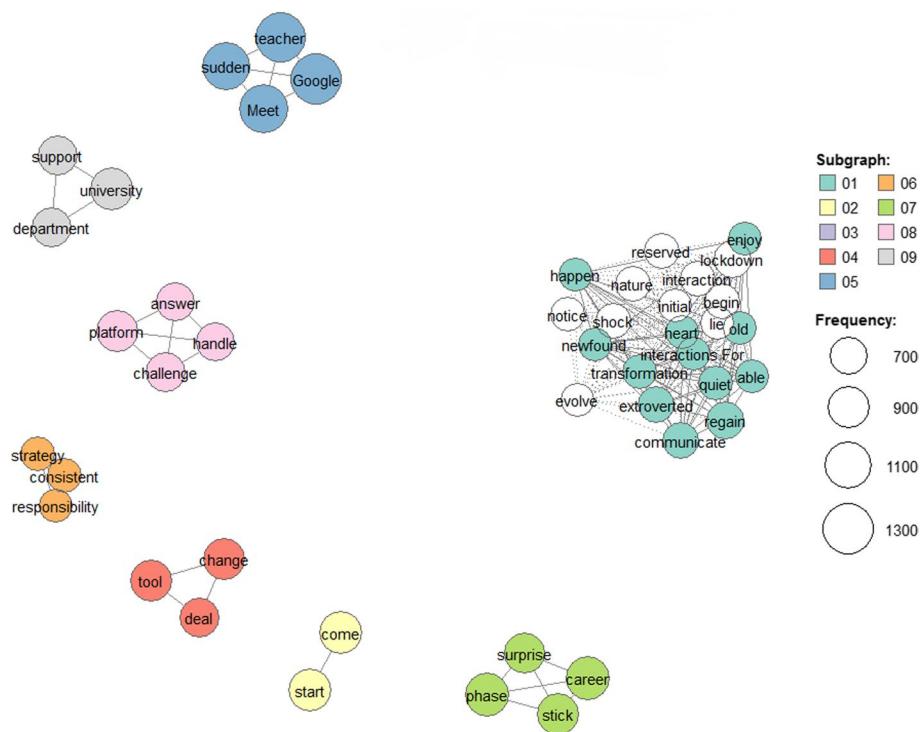


Fig. 5 Word association analysis with applying the coding for main factors in language teachers' identity reconstruction process

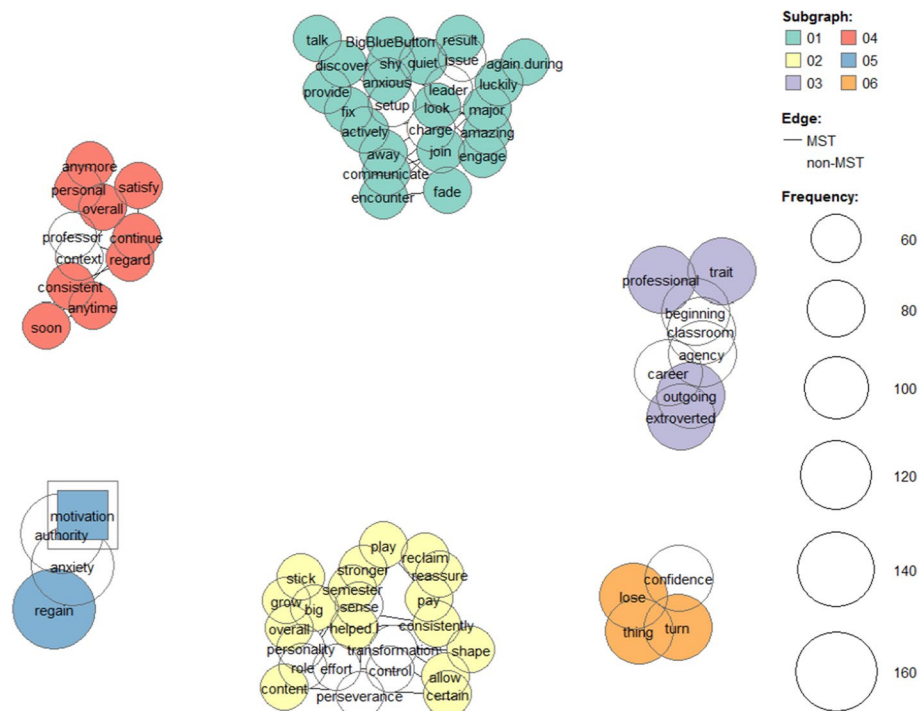


Fig. 6 Word networks pertinent to teacher identity reconstruction factors

To expound upon the outcomes delineated in the preceding section, a content analysis was conducted, as illustrated in Fig. 6. Content analysis by KH Coder 3.0 is applicable through employing the selected codes in the word association analysis of the software (Higuchi, 2017). Doing so, as Higuchi (2017) explains, makes the related codes emerge in the plots which, these connected codes, show the found themes in our intended data. Relying on these explanations, in this phase of the data analysis, an additional coding process was applied. This procedure was conducted to extract prevailing themes and patterns pertaining to the teachers' perceptions of intrapersonal, interpersonal, institutional, and contextual factors. Through considering the most densely interconnected areas of the plot (shown in Fig. 6) and reviewing the relevant data, it was ascertained that the themes at this stage encompassed teachers' as proactive problem solvers, receptive adapters, and confident professionals. Furthermore, it was observed that the lecturers who perceived themselves as extroverted reported successful adaptation to virtual pedagogy, characterized by their reduced anxiety and heightened motivation; however, the ones who self-perceived their personality as introverted reported contrasting outcomes due to their innate unwillingness to communicate through digital pedagogical context, resulting in less favorable experiences.

To validate these findings, as Rogers (2018) recommended, random segments of the data pertinent to this phase of the data analysis were subjected to manual interpretation. This technique is one of the most effective ways to increase the credibility of the results while working with different qualitative data analysis software (Rogers, 2018).

Excerpts 1–3 were randomly chosen from the whole datasets for manual data analysis to confirm the findings of the KH Coder 3.0 analysis.

Excerpt 1.

"I received a lot of constructive feedback from my colleagues that could help me out with improving my virtual teaching proficiency. The point is that I am learning with the passage of time to solve problems. I have changed a lot. I always considered myself an extroverted person, but at the beginning of the lockdown I was so reserved! As time passed, I felt I got my extrovertedness back and I can, again, make efficient communications with my students." (Narges, semi-structured interview data, December, 2020).

Excerpt 2.

"I am reserved and introverted in nature. The biggest problem I faced in virtual setting was interaction with the students. Communicating online with students who did not participate in classroom interactions made me demotivated and anxious! I sought solutions for this problem. Using online conference meeting platforms was the solution!. I employed Google Meet and BigBlueButton to get my students participate in classroom discussions. This helped me regain my agency as classroom manager and leader." (Alireza, focus group interview data, March 2021)

Excerpt 3.

"I felt I had lost my agency and authority at the beginning of the semester. Anxiety took over, and I wasn't certain if I could ever feel in control again. But now, after months of teaching consistently in virtual settings, things have turned around. I'm confident that I've reclaimed my authority in the classroom. My personality played a big role in this story. Being outgoing and extroverted helped me survive!"
(Maryam, semi-structured interview data, April, 2021).

To manually analyze these three randomly selected segments of data, a thematic analysis informed by the guideline of Clarke and Braun (2013) was used. The reason for this choice was, as Mariegaard et al., (2022) argued, the guideline of Clarke and Braun (2013) provides a flexible framework for analyzing various types of qualitative data in order to find main themes on the construct of interest. In this method, qualitative researchers move through six steps of: (1) reviewing the data, (2) coding the data, (3) searching for themes in the coded data, (4) reviewing the extracted themes, (5) defining the themes, and (6) writing interpretations on the themes (Clarke & Braun, 2013).

Following these six steps, first, the excerpts were reviewed meticulously and the same coding schemes, shown in Tables 1 and 2, were manually applied on them. In the next step, themes were manually extracted from the coded data. These themes included: the importance of receiving feedback, finding effectual ways to enhance teacher-student communication, the role of teachers' personal attribute in their adaptation procedure, and the significance of teachers' self-education on employing more efficient coping strategies with the new context. Reviewing the themes and interpreting them confirmed the findings of the content analysis conducted by KH Coder 3.0 as, in the manual analysis that the language teachers were found to perceive of their professional self as proactive problem solvers, receptive adapters, and confident experts during their identity reconstruction procedure.

Communication and language teachers' identity reconstruction

Network 2 in Fig. 4 presented a strong word contention with regard to the teacher-student communication issues. In order to achieve a deeper understanding of the communication problems that the university lecturers were found to face, the data were subjected to an extra coding system (shown in Table 3) designed based on the classification of the contextual features of communication, explained by Zhang and Hwan (2023). This coding scheme was applied to a word-association analysis by KH Coder 3.0 and the findings, as shown in Fig. 5, presented a strong connection of the words related to teachers' self-perception of personal characteristics (e.g., extroverted, introverted, reserved), teachers' consistency in overcoming the contextual challenges (e.g., work hard, try, trouble), and teachers' concern regarding their professional position and establishing agency in virtual settings (e.g., power, position, authority, anxiety). At this stage it was required to find a connection among the words related to problem solving and communication-related issues found in the previous findings of the study. Conducting another word-association analysis in this regard, as Fig. 7 displays, showed a strong connection among the words of "support", "university", and "department" with a high frequency of co-occurrence. This point illuminated the university lecturers' expectation of support from their affiliated

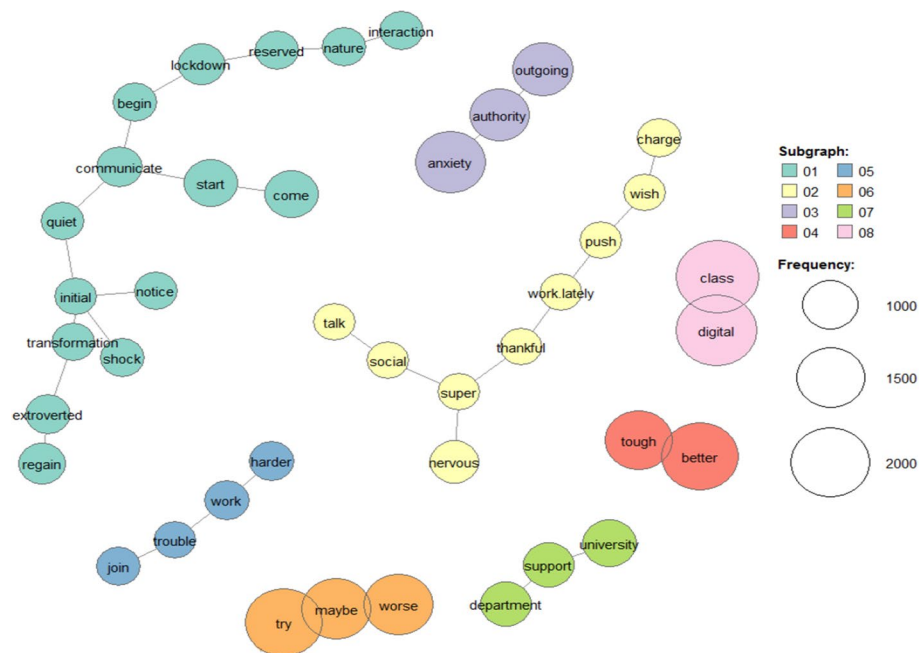


Fig. 7 Word association analysis with applying coding for contextual factors

institutions for solving the problems of teacher-student communication during this abrupt shift.

A more profound interpretation for this set of findings was achieved through attending to Zhang and Hwan's (2023) classification of contextual layers namely micro, meso, and macro. In line with this contextual classification and associated attributes, the findings elucidated the following:

1. At the micro level, university lecturers' perceptions of their personal traits and behavior were found to contribute to their professional identity reconstruction process within the virtual pedagogy context.
2. Moving to the meso level, instructors' perspectives regarding their authority, agency, and institutional affiliations were found to incorporate to their identity reconstruction. This assertion is reinforced by the strong associations observed among terms such as "department," "support," and "university" in the datasets.
3. Finally, at the macro level, participants in the research recognized the substantial role of classroom-related variables, including digital learning methods, student feedback, and classroom activities, in their identity reconstruction process.

At this stage of the data analysis procedure, as recommended by Rogers (2018), once again a manual thematic analysis on the randomly selected segments of data sounded promising to validate the findings of the KH Coder 3.0 analysis. As previous, here again, a thematic analysis based on the guideline of Clarke and Braun (2013) was employed. The followings are the excerpts randomly reselected for this part of the manual analysis:

Excerpt 4.

"I'm feeling confident now, but I was miserable at the beginning of the semester. Normally I am flexible and positive in a new context. I usually adapt quickly when facing a challenge, but at the beginning of the lockdown I felt exactly the opposite. I had lost my confidence in a way! I felt like I needed support and training from the university department on how to do digital teaching efficiently. I was left alone! And my perseverance and flexibility saved me" (Mohadese, focus group interview data, December, 2020).

Excerpt 5.

"I had a good past two weeks with my students since I received positive feedbacks from them. I asked for a feedback on my quality of teaching and the quality of the classroom activities regarding the fact that the university does not care about us! No support, no training, no nothing! The students' feedback, however, turned out to be very good! I am proud of them, proud of myself" (Mohammad, reflective journaling data, February, 2021).

Excerpt 6.

"I am feeling more confident now compared to last month while still struggling to get students involved in the classroom tasks. I've noticed a big improvement in my self-confidence compared to last month, which is great. I understand that I need to put in more effort to adapt to this new situation. Coming up with fresh and exciting teaching methods is something I want to focus on" (Mehdi, semi-structured interview data, November, 2020).

At the first stage of the manual thematic analysis of the excerpts 4–6, according to the guideline of Clarke and Braun (2013), the excerpts were reviewed and the same coding schemes, shown in Tables 2 and 3, were employed on them. In the next step, themes were manually extracted from the coded data. The found themes included: teachers' personal traits, teachers' self-perception of their proficiency, teachers' self-perception of their agency, and teachers' need of support in virtual setting. Reviewing the themes regarding the context confirmed the findings of the word-association analysis by KH Coder 3.0. To elucidate, Excerpts 4 to 6 shed light on several pivotal factors that played a substantial role in teachers' identity reconstruction processes within virtual educational environments. Foremost among these factors is the combination of teachers' perception of their individual traits and the coping strategies they employed which emerged as pivotal contributors to their identity reconstruction process. Furthermore, the excerpts underscored the notable expectation among teachers for support from their affiliated institutions during the abrupt transition to virtual teaching. All of these findings agreed with the outcome of word-association analyses conducted by KH Coder 3.0.

Overall, the multifaceted procedure of teacher identity reconstruction in virtual educational settings is found to be intricately linked with teachers' personal characteristics, their resilience in the face of challenges, their expectations of institutional support, and their concerns about their professional roles as proactive problem solvers, receptive adapters, and confident experts. These roles are interpreted as follows:

- Proactive problem solvers: university lecturers were found to take on the role of proactive problem solvers in this study. Faced with the sudden shift to online teaching, they actively sought solutions to address the various challenges that arose. This included finding innovative ways to engage students virtually, troubleshooting technical issues, and adapting their teaching methods to suit the online environment.
- Receptive adapters: another role they embraced was that of being receptive to virtual teaching environments. They were open to learning new tools and techniques that they deemed to be necessary for effective online instruction.
- Confident experts: language teachers were found to develop a sense of confidence in their virtual teaching practice. As they gained experience in teaching online, they grew more assured in their ability to convey their expertise to students through virtual means.

Discussion and implications

The COVID-19 pandemic led to an abrupt shift from traditional in-person teaching to online schooling. Within this shift, educators faced challenges in defining their roles and agency in virtual environments which, in turn, required them to adapt and reconstruct their professional identities (Ashton, 2022; Azizi, 2022; El-Soussi, 2022; Fallah et al, 2021; Zhang & Hwan, 2023). In this respect, this study focused on investigating identity reconstruction procedure of university English teachers in Iran concerning their agency, pedagogical practices, and contextual factors during the COVID-19 lockdown. The findings revealed the two critical factors that significantly directed the educators' identity reconstruction procedure during the transition to the online schooling system: (a) adaptation to the new educational context and (b) addressing student–teacher communication challenges. These factors can be elucidated through four sound theoretical frameworks. The first factor, which underscores the importance of educators adapting to the new educational context, aligns with two primary theoretical frameworks. Firstly, the adaptation theory which argues that individuals modify their behaviors and professional enterprise in response to the changing environmental conditions (Ritter et al., 2016). In the context of this study, educators presented a behavioral adaptation to the new educational environment. This adaptation, as the findings showed, encompassed showing flexibility regarding virtual setting and digital issues, such as learning how to work with new platforms, as well as a self-reevaluation of teaching methodologies to suit the virtual context. Secondly, the significance of the educators' adaptation to the new context could be validated by the theory of constructivism in education which corroborates that individuals actively construct knowledge and meaning through their experiences to suit their surrounding situations (Von Glasersfeld, 2012). In this study, educators were found to construct new pedagogical knowledge and practices throughout their adaptation to the virtual setting. They had to consider how to facilitate active learning, foster critical thinking, and engage students effectively within the constraints of online platforms.

Moving to the second factor, which underscores the need to address communication challenges inherent in online schooling settings, valuable insights from another two pertinent theoretical frameworks could be uncovered. Firstly, as the communication accommodation theory suggests, individuals adjust their communication styles to align with

the norms and expectations of their communicative partners (Soliz & Giles, 2014). In the context of online teaching in this study, educators had to adapt to the limitations of the virtual environment, highlighting the challenges associated with conventional teacher-student interactions. Secondly, as the media richness theory argues, different communication channels vary in their ability to effectively convey information (Ishii et al., 2019). In this research, within the virtual context, educators encountered challenges related to the richness of communication channels. The virtual environment was found to introduce barriers to immediate and synchronous communication between students and teachers which, in turn, necessitated the development of alternative means to convey information, provide support, and foster student engagement.

To attain a deeper understanding of the aforementioned research findings, it seems essential to juxtapose these results with the conclusions drawn from previous empirical studies of a comparable nature. The findings of the current research share similarities with the outcome of the study conducted by Nazari and Seyri (2023) on how Iranian language teachers underwent a multifaceted process of reconstructing their identity. Their findings showed a close relationship between teachers' identity reconstruction process and their strategies for adapting to virtual teaching environments. This adaptation was found to manifest in their development of innovative instructional solutions to reclaim agency in the virtual teaching setting. This point is congruent with a segment of the present study's findings, wherein adaptation strategies were identified as being intricately intertwined with factors affecting teacher-student communication, an issue that underwent disruption within the online educational context. This outcome also resonates with the discoveries of Fallah et al. (2021) who underscored the pivotal role of teachers' communication in the process of reconstructing their professional identity in online schooling settings. The implications of these findings underscore the significance of recognizing the nuanced relationship between contextual adaptation and communication strategies in the process of language teachers' identity reconstruction (Ternt, 2015). Consequently, this point underscores the necessity for tailoring a professional teacher training system that highlights the consistent nature of the challenges that language teachers face in online teaching contexts. By attending to these conclusions, educational institutions can enhance their support for instructors in skillfully maneuvering through online teaching environments. This, in turn, could lead to nurturing their ongoing professional development and overall teaching proficiency.

Another crucial finding of this study pertained to the dynamic procedure of teacher identity reconstruction. This was vividly demonstrated through the strategies that university lecturers adopted throughout two consecutive semesters of virtual teaching. This observation aligns with the research conducted by Ghanbari and Nowroozi (2022) who similarly demonstrated that the transition to online education prompted university lecturers to struggle with a diverse range of pedagogical, technological, institutional, and emotional challenges during the initial phases. However, with the passage of time, these educators exhibited an ability to find and employ effective solutions to overcome the impediments. These outcomes are of twofold implications. Firstly, the recognition of teacher identity as a dynamic and adaptable construct underscores the importance of fostering an evolving mindset within educators. By acknowledging the flexibility of

their professional identity and the potential for evolution in response to changing circumstances, educators may be more inclined to embrace innovative teaching methods and confront challenges with resilience. Secondly, the parallels drawn with Ghanbari and Nowroozi's (2022) study accentuate the widespread nature of the challenges teachers encountered during the shift to online education. This emphasizes the need for specific teacher education programs that provide educators with the necessary trainings on how to handle the complex requirements of online teaching. Furthermore, institutions must invest in comprehensive teacher training agendas that address pedagogical strategies, technological proficiency, and instructional adaptation techniques that prepare the teachers for a successful virtual teaching program.

By recognizing and confronting these diverse challenges, educators would be more aptly positioned to surpass initial obstacles and enhance their teaching impact in the realm of online education. In this regard, it should be added that the implications drawn from this study hold significance on two main scales of global and local in the context of virtual language education. On a global scale, the implications are suggested as follows:

- Global educational adaptation: the COVID-19 pandemic has prompted an international shift towards online education. Recognizing the importance of educators' adaptation to this new global educational context, institutions worldwide can draw from the study's insights to provide targeted support and resources. This includes comprehensive training programs to enhance teachers' technological proficiency, guidance on effective online teaching methodologies, and fostering a culture of continuous learning and adaptation.
- Pedagogical transformation: the study highlights the constructivist nature of knowledge construction during adaptation. This realization is applicable globally, emphasizing the need for educational institutions to encourage educators to actively engage in pedagogical transformation. This could embody through implementing a blend of teaching methods such as hybrid learning at the tertiary level.
- Effective online communication skills: online communication challenges are universal. Therefore, institutions globally should prioritize the development of effective online communication skills for educators. This involves training in utilizing diverse communication tools, maintaining student engagement, and adapting communication styles to suit the virtual environment.

On a local level, within the context of Iran, the implications are suggested as follows:

- Cultural factors: this point involves the great agency that the university lecturers hold in the physical instructional settings in higher education in Iran. Transitioning to an online learning environment was reported by the lecturers to induce anxiety in them as they were found to face difficulties in regaining this agency in virtual teaching programs. In this regard, Iranian institutions can use this insight to develop specific training programs for educator in terms of communicational strategies in virtual settings to establish their agency and assert their authority more effectively.

- Customized support: Iranian educational establishments should maintain a continuous system of monitoring and support tailored to the needs of educators engaged in online teaching according to their psychological and technological demands. This could include regular assessments, feedback mechanisms, and flexible professional development initiatives.
- Policy adaptation: policymakers in Iran can consider the study's insights to shape educational guidelines that are in tune with the changing responsibilities of the educators in the digital era, taking into account their unique cultural and educational environment. This could include offering the educators complimentary access to a wide range of online educational resources, ensuring the availability of online teaching materials, and providing them with cost-free technological support systems.

Conclusion

The primary focus of this study was to explore the Iranian university language teachers' identity reconstruction procedure concerning their agency, pedagogical practices, and contextual factors during the pandemic era. The findings revealed that the procedure of teachers' identity reconstruction was rooted in two fundamental drivers: firstly, the necessity to adapt to the new educational context, and secondly, the need to direct student–teacher online communication challenges. Within the convergence of these drivers, language teachers were found to undergo a profound shifting process in their identity reconstruction procedure. This shift enabled them to embrace roles characterized by taking proactive steps to address challenges, displaying a receptive attitude towards virtual teaching environments, and developing a sense of confidence in their virtual teaching proficiency.

Furthermore, the study revealed that the hurdles for English language educators in online schooling programs extended beyond their technological competence as they were found to be in dire need of reconstructing their agency through employing instructional techniques, such as teaching through virtual conference meetings and group discussions, that helped them regain their agency in the virtual setting. In light of these findings, it is evident that, while face-to-face instruction retains its fundamental role, a fusion of pedagogical approaches, including hybrid learning, is imperative to enhance the competencies and aptitudes of in-service educators, which are crucial for their proficiency in virtual teaching environments. Additionally, this research underscores that the enhancement of educators' effectiveness in virtual teaching necessitates not only technical proficiency but also adaptability in pedagogical strategies. Thus, it becomes imperative for teacher education programs to comprehensively equip instructors with the capacity to discern diverse pedagogical scenarios and adeptly employ or devise suitable teaching methodologies tailored to specific contextual demands.

Finally, the outcomes of this research shed light on the pivotal role of the personal attributes of the language teachers in shaping their professional conduct and reconstructing their professional identity in the virtual context. Within this context, it was discerned that instructors who perceived themselves as adaptable and extroverted were inclined to regard their transition to online pedagogy as successful since they reported diminished levels of anxiety coupled with amplified motivation which facilitated their rapid adaptation to the new context. Conversely, individuals who claimed to

be introverted and reserved conveyed feelings of unease and diminished motivation to sustain their engagement in the online teaching context. In light of these insights, this set of findings have implications for teacher educators as it suggests for teacher training programs to involve hybrid teaching methodologies. Such an approach could effectively address teachers' anxiety towards educational technology and foster their confidence and teaching proficiency in digital instructional systems.

Limitations of the study and suggestions for further research

Notwithstanding its importance, this research suffers from a limitation which lies in the absence of participant diversity. The study exclusively encompassed Iranian university lecturers as its participants. It would be prudent to undertake research involving a broader spectrum of culturally diverse English teachers at the tertiary level. In this context, three additional recommendations for further research can be enumerated as follows:

1. Cross-cultural comparative study: conduct a comparative study that includes language educators from various cultural backgrounds. Explore how the strategies employed by them in virtual instructional settings might vary or overlap across different cultural contexts. This could provide insights into the universality or cultural specificity of these strategies.
2. Longitudinal study on teacher education programs: conduct a longitudinal study to examine the effectiveness of teacher education programs in enhancing educators' virtual teaching proficiency over time. This would involve tracking the progress of educators who have undergone specific training programs and evaluating their performance and confidence in digital instructional systems.
3. Psychological factors in online schooling systems: investigate the psychological factors that influence language educators' adaptation to online teaching. This could involve a more in-depth exploration of personality traits, such as extroversion and introversion, and their impact on teachers' comfort and effectiveness in virtual pedagogy.

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Author contributions

The paper constitutes the singular author's scholarly contribution.

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Availability of data and materials

Data will be made available on request.

Declarations

Ethics approval and consent to participate

The pursuit of broad applicability for the dataset was underpinned by the meticulous incorporation of ethical considerations pertaining to the participants, accompanied by the requisite obtaining of their informed consent; however, the institutional setting of the authors did not mandate a formal ethics approval protocol.

Competing interests

There is no potential conflict of interest with regard to this research and publication of it.

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